

SPRINKLER PERFORMANCE EVALUATION CATCH CUP

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to measuring instruments used in evaluating the performance of water sprinklers. More specifically, the present invention relates to an improved measuring cup device for use in evaluating sprinkler performance.

2. Background of the Invention

[0002] Devices for measuring sprinkler performance are used to improve efficiency and to allow adjustment of the sprinkler rate or pattern to insure the proper amount of water is delivered to an area. Generally, these devices are placed in grid patterns over the area where sprinkler performance needs to be evaluated. In some cases, as many as fifty devices may be necessary to properly measure sprinkler performance.

[0003] The critical component involved in measuring sprinkler performance is the container or catchment device which captures water from the sprinkler. Typically, these devices consist of two components, a metal ring stand and a plastic cup. One disadvantage of the devices that are presently used is that in order to properly position and arrange these catchment devices, a field technician must first place the metal ring stand down in the ground and then place the plastic cup in the stand. Moreover, in order to retrieve the devices the reverse process is required. Given the large number of devices that must be placed in some areas, the placing and retrieving of these devices can be a time consuming and burdensome task.

[0004] Additionally, metal ring stands accidentally left behind have been known to damage mowers and other equipment. Moreover, most conventional measuring cups are calibrated in milliliters, not depth of water applied. Thus, complex calculations may be involved in properly determining sprinkler performance. In some cases calculators or portable computers are necessary to eliminate the chance of mathematical errors.

BRIEF SUMMARY OF THE INVENTION

[0005] In accordance with an object of the present invention, a device is provided for evaluating sprinkler performance comprising a one-piece unit with a tri-pod leg construction which allows for easy placement and retrieval.

[0006] It is another object of the present invention to provide a measuring device that may be stacked so as to reduce space required for storage and transit.

[0007] It is still a further object of the present invention to provide a measuring device which enables measurement of depth of water applied by a sprinkler or sprinkler system.

[0008] The measuring device includes a measuring cup with measurement markings along at least one side and a closed bottom. A plurality of legs, formed integrally with the measuring cup, extend beyond the bottom end of the cup and support the device in an upright position in the ground. The legs include pointed end portions which allow the legs to be stuck into the ground to support the device.

[0009] In a preferred embodiment, the cup is tapered in shape and has a smaller end terminating at the closed bottom. Preferably, the cup has a first and second tapered portion. Advantageously, the first and second tapered portions are annular in

cross section. In an advantageous implementation, the cup has measurement markings along both its sides, which preferably are in inches or centimeters. Preferably, the cup further includes a plurality of flanges which extend outward from the annular edge at equally spaced locations therearound, and the legs are formed integrally with the flanges.

[0010] In accordance with another aspect of the present invention, a stackable measuring device is provided which includes a tapered vessel with an angled side wall. The angled side wall includes measurement markings therealong. The vessel has an open top, a plurality of flanges which extend outwardly from the top, and a closed bottom. A plurality of legs which are formed integrally with the vessel extend downwardly from the flanges of the vessel beyond the bottom. The legs and vessel are shaped to allow the device to be stacked on a further device.

[0011] Further features and advantages of the present invention will be set forth in, or are apparent from, the detailed description of preferred embodiments which follows.

BRIEF DESCRIPTION OF THE DRAWING

[0012] The invention will now be described in detail with respect to a preferred embodiment thereof with reference to the accompanying drawings, wherein:

[0013] Figure 1 is a front elevational view of a measuring device in accordance with a preferred embodiment of the invention;

[0014] Figure 2 is a side elevational view of the measuring device of Figure 1; and

[0015] Figure 3 is a top plan view of the measuring device from Figure 1.

DETAILED DESCRIPTION OF THE INVENTION

[0016] Referring to the drawings, wherein like numbers represent like elements throughout the several views, and referring particularly to Figure 1, a plastic measuring cup device, generally denoted 10, includes a cup member 12 having measurement markings thereon, denoted 12a in Figure 1, a closed bottom 14. Cup 10 includes a first tapered portion 26, and a second tapered portion 28 (best seen in Figure 2) and has an open top 24 defined by an annular upper edge 20 (best seen in Figure 3) in which water is received. The measurement markings 12a extend vertically down along the side of the measuring cup 12 and are arranged so as to indicate the depth of water collected. The measurement markings may extend down either one or both sides of the measuring cup 12 and, in the preferred embodiment illustrated in the drawings, two sets of markings, denoted 12a and 12b, are provided, as shown in Figure 1 and 2, respectively, which are calibrated in inches and centimeters, respectively.

[0017] The measuring cup device 10 also includes a plurality of legs 16. In the preferred embodiment illustrated in the drawings, three legs 16 are provided. As can be seen from Figure 1, the legs 16 are formed integrally with the cup 10 and, as shown, the legs 16 extend downwardly from integral flanges 22 (best seen in Figure 2) which extend outwardly from the annular edge 20 at the open top 24 of cup 12.

[0018] In the illustrated embodiment, the legs 16 are of a V-shaped cross section formed by first and second angled portions thereof. The legs 16 each terminate in a pointed end portion 18 which enable the legs 16 to be readily stuck in the ground.

[0019] The flanges 22 are spaced radially around the annular edge 20 and are preferably spaced equidistantly apart from one another. The flanges 22 terminate in V-shaped edges joined to legs 16. The legs 16 extend downwardly from the flanges 22 beyond the bottom surface 14 of cup 12 (see Figure 1).

[0020] Although the invention has been described in detail with respect to preferred embodiments thereof, it will be apparent to one skilled in the art that the invention is capable of numerous modifications and variations within the spirit and scope of the invention.